

UNIVERSITY OF CALIFORNIA.

AGRICULTURAL EXPERIMENT STATION.

BULLETIN NO. 47.

Seed Distribution.

The character of the season just passed prevented a fair test of the seeds sent out last year. As some of the varieties distributed last year have shown such excellent qualities on the University experiment grounds, and in the hands of a number of our correspondents, we have decided to offer many of them again this year, hoping that a more liberal rainfall will give all an opportunity to determine their value in the different regions. We have also added to the list several new growths which promise well. As has been stated in previous announcements, this distribution is made for the purpose of ascertaining the adaptation and practical value of the several kinds, in the different climates and soils of the State; and persons receiving them are requested to report results, whether success or failure, and if the latter, from what apparent causes.

As there is no appropriation available to meet the expenses of packing and postage, applicants for the seeds are requested to send the amounts specified in connection with each description below. If they desire seeds sent by express, applicants need not send money with their orders. Applications may be made for one or more kinds of seeds. In case any kind of seed becomes exhausted, the money sent will be returned unless a second choice is mentioned by the sender. Amounts less than \$1 may be sent in postage stamps if convenient; larger sums should be by postal note payable at the Berkeley Postoffice. A distribution of plants and scions will be announced hereafter.

Barley.

The following barleys and wheats will be forwarded by mail to applicants who send 20 cents for one-pound sacks and 36 cents for two-pound sacks:—

Six-rowed-Barley: A very different type from that commonly grown on this coast, and we believe that for some localities and uses it is much to be preferred. The arrangement of the grains in the head is such as to show six distinct rows, instead of the crowded appearance, which makes our common barley pass as four-rowed. The straw is of only moderate length, strong and very erect, making it less liable to lodge than most other varieties. The heavy rains of June, 1884, which prostrated nearly all the other grains on our grounds, did not effect this variety. It stood erect and strong. The yield is among the highest that we have recorded in our experiments. Our stock was raised from

seed secured in the Brenner collection, imported from Europe, where the grain is also particularly valued for mountain lands. We commend this grain for a general trial, and in particular for the northern valleys of the State.

Rice, Sprat, or Battledore Barley: In some respects there is a close resemblance between this variety and the last, as in its upright straw, heads of even height and spreading beards. Straw very short, and like the six-rowed did not lodge. It has two rows of grain in a very short head, so that the beards stand in the form of a battledore. The grain is said to swell when cooked, as rice does. The yield is fair, and the hardy plant adapted to mountain regions—an interesting variety.

Scotch Two-rowed Barley: In a series of years this has proved to be a very superior grain, both in yield and quality, as well as in not lodging as badly as Chevalier. We have good reports from seed sent out in former years.

Imperial Two-rowed: Good, but not as well proved as some others.

Wheats.

Whittington Wheat: A favorite in England, and promising well here, when sown early; though, on our soil, becoming more starchy than the original seed imported by the University. Seed, long, and resembling the white Australian; should be tried on various soils. The Whittington, grown on the University grounds, has been pronounced a good flouring wheat by a competent miller. It is the best yielding wheat we have grown.

Black-bearded Centennial: From seed received some years ago from the U. S. Department of Agriculture. A variety that has been widely disseminated and much praised. Its very tall and strong straw, large heads and long beard, which is black during growth, make a very showy crop. The beards are shed when the grain matures. It has been especially commended by California millers. The yield is good.

California Spring Wheat: Received from Germany under this name, but not yet identified with any variety generally known here. It seems adapted to our climate. Head of medium length, compact, beardless, with white chaff. The grain looks well, is round, rather small, soft, starchy and fairly even in size.

White Silesian Spelt-Wheat: In the chaff. This type of wheat is prized in Europe for pastry, although the chaff must be removed by a process similar to that employed with rice, and therefore is less desirable than wheat for a bread grain. With us it has never made really plump grain, perhaps because of late planting, as it apparently needs a longer growing season,

as regards moisture, or a mountain climate—its preferred location in Europe. Our own experience, and that of others, indicates that its hardness and leafy growth would make it valuable as a hay crop in the mountain regions of the State. It is sown in the chaff. Spelts succeed on poorer and rougher land, and are harder than wheat. The grain cannot be plucked by birds. We have but a moderate supply, and can send in one-pound sacks, 20 cents each.

Rye.

St. John's Day Rye: Heavy drooping heads; broad near the stem and tapering toward the tip. Abundant fine beards. Acknowledged to be one of the best of known ryes; from seed imported from Erfurt, Germany. For one-pound sacks, send 20 cents.

Swedish Sand Rye: Another good variety imported from the same place and recommended for sandy soils. We would like to have this variety tried on light soils for dairy feed as well as grain. For one-pound sacks send 20 cents.

Forage Plants.

Seeds of the three following grasses will be sent in four-oz. packages; send five cents in stamps for each:

Schrader's Brome Grass (*Bromus Schraderii* or *unioloides*): Valued in Australia as resisting drought, and in Texas as giving good feed in winter and early spring. We have received reports from those in this State to whom we sent seeds two years ago, declaring the grass a success. It is among the first grasses to start, grows vigorously, and matures an abundance of heavy seeds almost like oats. Its seed stems being two or three feet high, and leafy, it can be used for either hay or pasture.

Hungarian Brome Grass (*Bromus inermis*): From seed imported by the University from Europe, commended by the French, as adapted to dry soils. Our experience indicates that it will do well here, either without or with moderate irrigation.

***Milium multiflorum*:** A perennial millet grass, growing about two feet high with seed stems two feet higher. It is a plant of slow development, but strong. Owing to the fineness of the seed, it should be planted very carefully and covered lightly. It should not be pastured the first year, as it is easily pulled up by the roots. After being well established, if grazed down, there is an abundant growth of fine leaves, which resist winter frosts to a remarkable degree. We have had favorable reports from the plants from different parts of the State, although some experimenters have complained of its failure. This is perhaps owing to the fact that it is hard to start, and because the season was unfavorable.

Black Medic or yellow trefoil (*Medicago lupulina*): A clover-like plant of very dense growth—very much like burr clover. It has grown on our experimental grounds without water: re-seeds itself freely; adapted to moist,

rich, clayey soils, where it will make a fine pasture. It can be sown like alfalfa. For two-oz. package send two cents.

Snail Clover (*Medicago turbinata*) from South-western Spain: An annual, closely related to burr clover, but the spirally-twisted pod is free from spines, and will not cling to the fleece of sheep. It starts with the first heavy rains and makes a dense, low mat of foliage. At maturity the ground becomes thickly covered with nutritious globular pods. For two-oz. package send two cents.

Tagasaste (*Cytisus proliferus albus*): A species of broom; a bush-like plant, recommended by the American Consul at the Azores Islands as a valuable forage plant for dry hill lands. We have very little seed and it will be sent to those who desire to make a careful test of the plant. To facilitate germination hot water should be poured upon the seed and allowed to stand for 12 hours before planting.

Evergreen Millet: This is the popular name for *Sorghum halapense*. It is an unfortunate name because the plant is not evergreen, nor is it a millet. We have received conflicting reports concerning the value of this plant. It must be understood that it will not flourish on a poor, shallow soil, nor excessively heavy or stony soils, nor will it generally do much the first year. It is always late in starting in the spring and is cut down by the first severe frost. In favorable situations it makes a very heavy growth during the summer. It should not be planted where it is not desired to remain, as it is hard to eradicate, and will spread to adjoining orchards or vineyards, especially in light, moist soils. Pound packages of root stocks, 20 cents each. For planting, cut the roots, two eyes to a piece, plow a light furrow and cover in.

Black Wattle.

***Acacia decurrens*,** the black wattle or tan-bark acacia of Australia: The bark of this tree, as grown on the University grounds, contains, as heretofore stated (Bulletin No. 4) over 40 per cent of tannin when in the air-dried condition, while that of the oaks usually amounts to only 10 or 12. The tree is a rapid grower, and is usually stripped in its eighth to tenth year, when 30 to 40 feet high. Does well on heavy as well as on light soils, provided they are deep; is doubtless hardy from Sacramento southward, possibly farther north on light soils. The seed is very hard and should be soaked well in warm water until softened, before sowing, otherwise it may be in the ground a year before coming up. As the wattles do not bear transplanting, the seed should be sown in pots or boxes and removed to open ground with a ball of earth attached when quite small—say 6 to 8 inches in height. The trees may be successfully started in open ground by planting the seed in hills about 10 feet apart, covering it not more than half an inch deep with well-pulverized soil. When the plants grow all but two or three of the most vigorous ones in each

hill can be removed. For further information see Report of College of Agriculture for 1882; subject "Tanning Plants." The seed will be sent in two-oz. packages for four cents. A few parties in suitable localities may be supplied with larger quantities for tests on a larger scale.

Insect Powder Plants.

Pyrethrum cinerariaefolium and *P. roseum*, the Dalmatian and Persian insect powder plants: The former is the one most to be recommended as an insecticide, while the latter is quite ornamental. having flowers resembling single chry-

santhemums, of four or five different colors. The seed should be sown in boxes in light, porous soil, and kept shaded, but in a warm place and moist. Under favorable circumstances the seed will germinate in two or three weeks, and the plants, when of sufficient size to be handled, should be set out like cabbage plants. We can furnish the seed in one oz. packages, two cents. For a full discussion of these plants see Report of Coll. of Agr. for 1882. All applications should be addressed to

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